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Multi-strange hadrons as penetrating probes

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We study the hadronic rescattering effects, in particular for multi-strange hadrons, on the final observables within an integrated dynamical approach in which a (3+1)D ideal hydrodynamic model is combined with hadronic cascade model, JAM.

Since the measured observables contain all the information throughout the space-time evolution in relativistic heavy ion collisions,
dissipation caused by hadronic rescattering in the late stage
must be taken into account to investigate the properties of the quark gluon plasma.

By comparing final observables to those obtained just after the QGP stage in this approach, we quantify the hadronic rescattering effects on particle ratio, azimuthal anisotropic flow v_n and mean transverse momentum $\langle p_{\mathrm{T}} \rangle$.

Furthermore we show that multi-strange hadrons can be direct probes of the QGP at hadronization due to a fact that multi-strange hadrons less rescatter with non-strange hadrons.

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